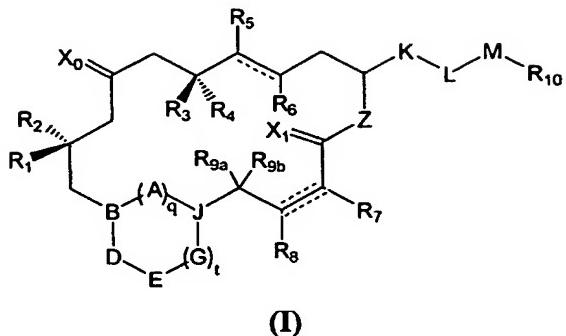


CLAIMS

1. A compound having the structure:



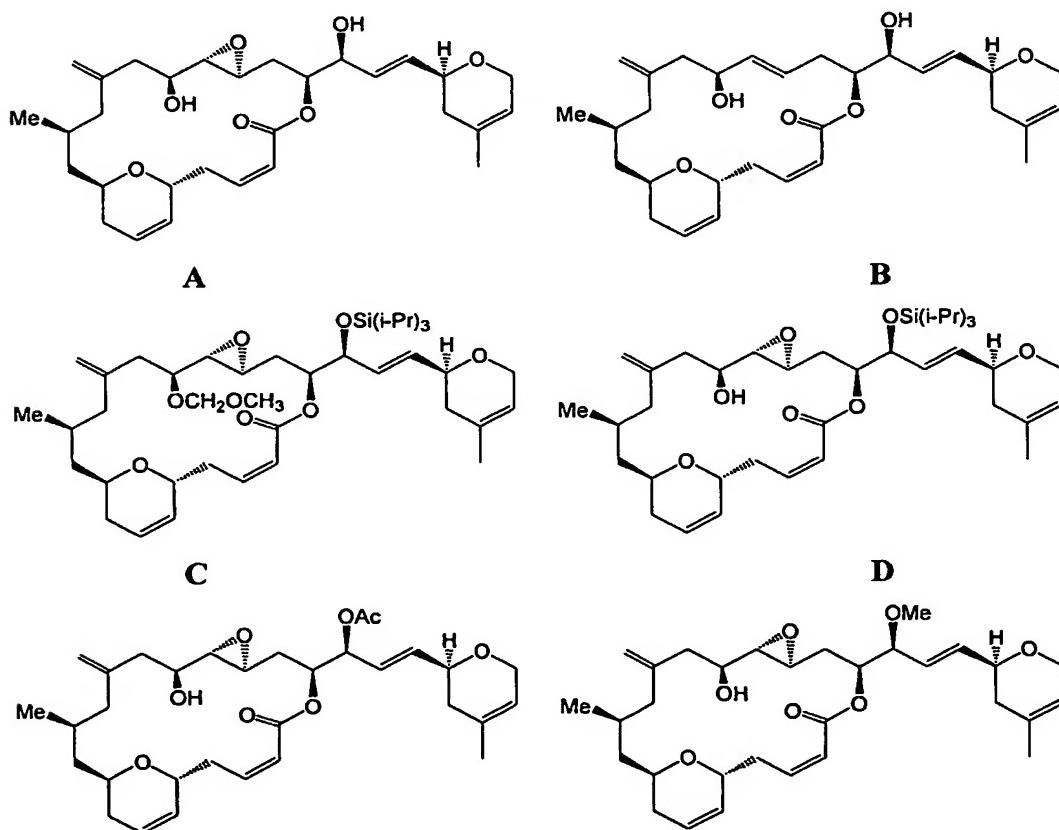
- 5 or pharmaceutically acceptable derivative thereof;
 wherein **R**₁ and **R**₂ are independently hydrogen, halogen, or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety;
- 10 **R**₃ and **R**₄ are independently hydrogen, -OR^{3a} or -NR^{3a}R^{3b}, wherein at least one of **R**₃ and **R**₄ is -OR^{3a} or -NR^{3a}R^{3b}, or **R**₃ and **R**₄ taken together with the carbon 15 to which they are attached form a -C(=O)- or =NR^{3c} moiety; wherein R^{3a} and R^{3b}, for each occurrence, is independently hydrogen, a protecting group, a prodrug moiety or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety; and R^{3c} is an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or OR^{3d}; wherein R^{3d} is 20 hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety;
- 25 **R**₅ and **R**₆ are independently hydrogen, halogen, -CN, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or is WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); or **R**₅ and **R**₆, taken together, form an alicyclic or heteroalicyclic moiety; wherein the carbon atoms to which **R**₅ and **R**₆ are attached may be connected by a single or double bond, as valency permits; and wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heteroalicyclic or heteroaryl

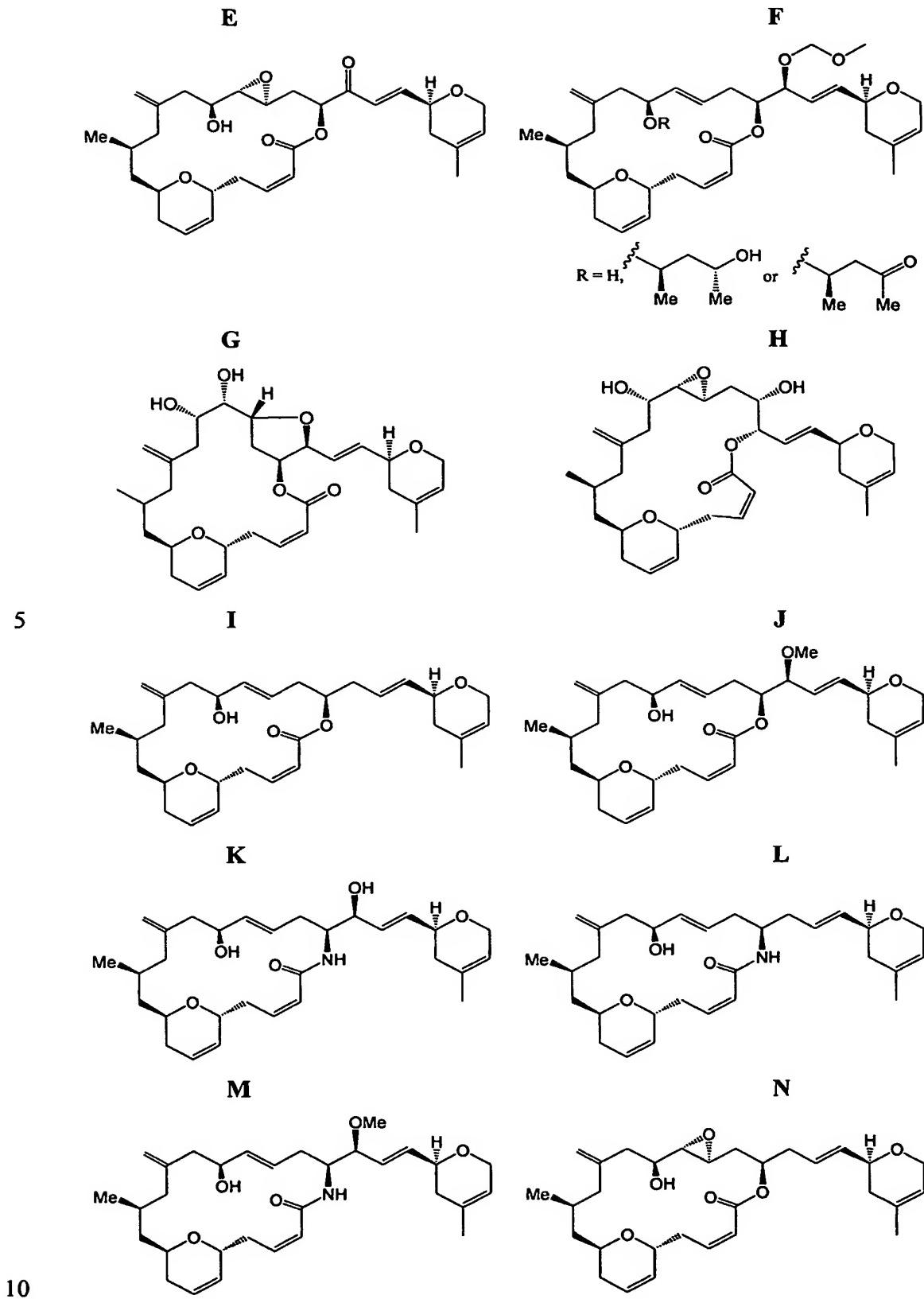
moiety; or R₆, taken together with a substituent present on K, forms an alicyclic, heterocyclic, aromatic or heteroaromatic moiety;

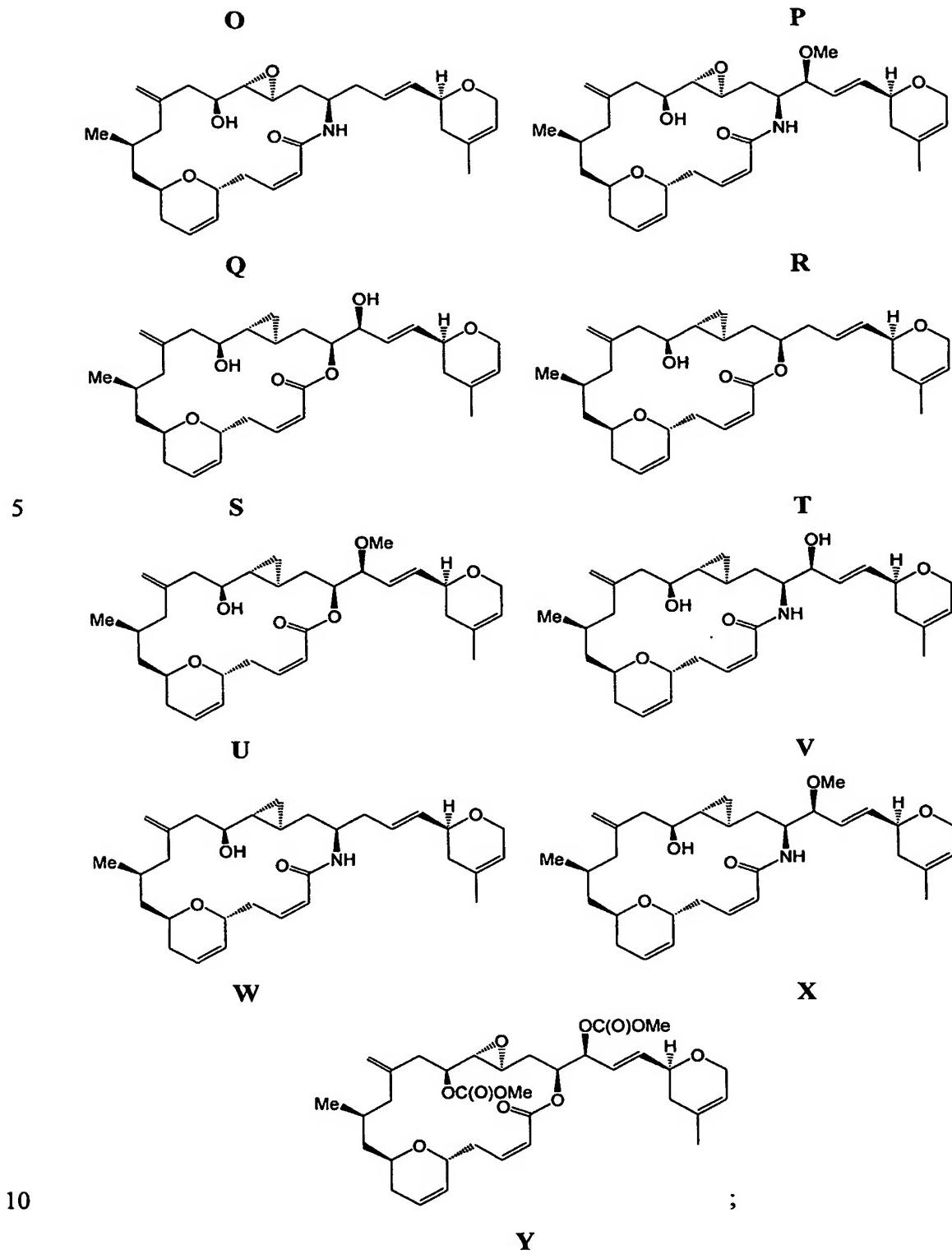
- R₇ and R₈ are independently absent, hydrogen, halogen, -CN, or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or R₇ and R₈, taken together, form an alicyclic, heteroalicyclic, aromatic or heteroaromatic moiety; wherein the carbon atoms to which R₇ and R₈ are attached may be connected by a single, double or triple bond, as valency permits;
- R_{9a} and R_{9b} are independently absent, hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or one of R_{9a} and R_{9b}, taken together with X₁, forms an alicyclic, heteroalicyclic, aromatic or heteroaromatic moiety;
- R₁₀ is hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety;
- X₀ is CR^{X0a}R^{X0b}, O or NR^{X0a}, wherein R^{X0a} and R^{X0b} are independently hydrogen, a nitrogen protecting group, or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aryl or heteroaryl moiety;
- X₁ is O, S or NR^{X1}, or X₁, taken together with one of R_{9a} and R_{9b}, forms an alicyclic, heteroalicyclic, aromatic or heteroaromatic moiety; wherein R^{X1} is hydrogen, a nitrogen protecting group, or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety;
- Z is O, NR^{Z1}, CR^{Z1}R^{Z2} or S, wherein R^{Z1} and R^{Z2} are independently hydrogen, halogen, a nitrogen protecting group, or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety;
- K, L and M are independently absent, or a substituted or unsubstituted C₁-6alkylidene or C₂-6alkenylidene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO₂, COCO, CONR^{P1}, OCONR^{P1}, NR^{P1}NR^{P2}, NR^{P1}NR^{P2}CO, NR^{P1}CO, NR^{P1}CO₂, NR^{P1}CONR^{P2}, SO, SO₂, NR^{P1}SO₂, SO₂NR^{P1}, NR^{P1}SO₂NR^{P2}, O, S, or NR^{P1}; wherein each occurrence of R^{P1} and R^{P2} is independently hydrogen, aliphatic, heteroaliphatic, aromatic, heteroaromatic or acyl, or a substituent present on K, when present, and taken together with R₆, forms an alicyclic, heterocyclic, aromatic or heteroaromatic moiety;

A, B, D, E, G and J are independently connected by either a single or double bond, as valency permits, or A-B-D-E-G-J together represents an aromatic or heteroaromatic moiety; wherein B and J are independently N or CR^{Q1}; and A, D, E and G are independently C=O, CR^{Q1}R^{Q2}, NR^{Q1}, O, N or S; wherein each occurrence of R^{Q1} and R^{Q2} is independently absent, hydrogen, halogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or is WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heteroalicyclic or heteroaryl moiety; or any two adjacent substituents on A, B, D, E, G and J, taken together, may represent an alicyclic, heteroalicyclic, aromatic or heteroaromatic moiety, and

15 q and t are independently 0-2; wherein the sum q+t is 1-3; with the proviso that the compound is not one of:







or any one of the compounds depicted on pages 107-111 and 114 of WO 03/076445.

2. The compound of claim 1 wherein:

R₁ and **R₂** are independently hydrogen, halogen, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety;

5 **R₃** and **R₄** are independently hydrogen, -OR^{3a} or -NR^{3a}R^{3b}, wherein at least one of R₃ and R₄ is -OR^{3a} or -NR^{3a}R^{3b}, or R₃ and R₄ taken together with the carbon to which they are attached form a a -C(=O)- or =NR^{3c} moiety; wherein R^{3a} and R^{3b}, for each occurrence, is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety; and R^{3c} is an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety, or OR^{3d}; wherein R^{3d} is hydrogen or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety;

10 **R₅** and **R₆** are independently hydrogen, halogen, -CN, an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or is WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); or R₅ and R₆, taken together, form a cycloalkyl or heterocyclic moiety; wherein the carbon atoms to which R₅ and R₆ are attached may be connected by a single or double bond, as valency permits; and wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety; or R₆, taken together with a substituent present on K, forms an alicyclic, heterocyclic, aryl or heteroaryl moiety;

20 **R₇** and **R₈** are independently absent, hydrogen, halogen or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, wherein the carbon atoms to which R₇ and R₈ are attached may be connected by a single, double or triple bond, as valency permits;

25 **R_{9a}** and **R_{9b}** are independently absent, hydrogen or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety;

30 **R₁₀** is hydrogen or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety;

X_0 is $CR^{X0a}R^{X0b}$, O or NR^{X0a} ; wherein R^{X0a} and R^{X0b} are independently hydrogen, a nitrogen protecting group, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety;

- X_1 is O, S or NR^{X1} ; wherein R^{X1} is hydrogen, a nitrogen protecting group, or
5 an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety;

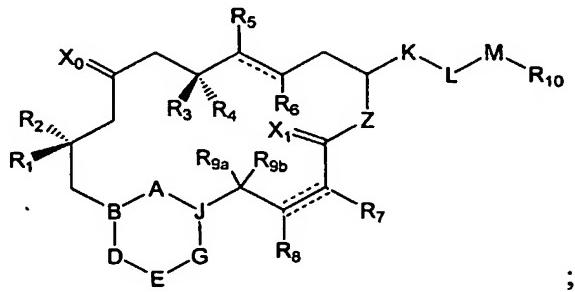
Z is O, NR^{Z1} , $CR^{Z1}R^{Z2}$ or S, wherein R^{Z1} and R^{Z2} are independently hydrogen, halogen, a nitrogen protecting group, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety;

- 10 K , L and M are independently absent, $CR^{P1}R^{P2}$, CR^{P1} or C=O, wherein each occurrence of R^{P1} is independently hydrogen, halogen, an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or is WR^{W1} wherein W is O, S, NR^{W2} , -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each occurrence of R^{W1} and R^{W2} is
15 independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or, when W is NR^{W2} , R^{W1} and R^{W2} , taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety; or a substituent present on K, when present, and taken together with R₆, forms an alicyclic, 20 heterocyclic, aromatic or heteroaromatic moiety; and

- A, B, D, E, G** and **J** are independently connected by either a single or double bond, as valency permits, or A-B-D-E-G-J together represents an aryl or heteroaryl moiety; wherein B and J are independently N or CR^{Q1} ; and A, D, E and G are independently C=O, $CR^{Q1}R^{Q2}$, NR^{Q1} , O, N or S; wherein each occurrence of R^{Q1} and
25 R^{Q2} is independently absent, hydrogen, halogen, an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or is WR^{W1} wherein W is O, S, NR^{W2} , -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl,
30 cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or, when W is NR^{W2} , R^{W1} and R^{W2} , taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety; or any two

adjacent substituents on A, B, D, E, G and J, taken together, may represent an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety.

- 5 3. The compound of claim 1, wherein q and t are each 1 and the compound has the structure:



wherein **R₁** and **R₂** are independently hydrogen, halogen, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety;

- 10 **R₃** and **R₄** are independently hydrogen or OR^{3a}, wherein at least one of **R₃** and **R₄** is -OR^{3a} or -NR^{3a}R^{3b}, or **R₃** and **R₄** taken together with the carbon to which they are attached form a a -C(=O)- or =NR^{3c} moiety; wherein R^{3a} and R^{3b}, for each occurrence, is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety; and R^{3c} is an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety, or OR^{3d}; wherein R^{3d} is hydrogen or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety;
- 15

- R₅** and **R₆** are independently hydrogen, halogen, -CN, an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or is WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); or **R₅** and **R₆**, taken together, form a cycloalkyl or heterocyclic moiety; wherein the carbon atoms to which **R₅** and **R₆** are attached may be connected by a single or double bond, as valency permits; and wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl

moiety; or R₆, taken together with a substituent present on K, forms an alicyclic, heterocyclic, aryl or heteroaryl moiety;

R₇ and R₈ are independently absent, hydrogen, halogen or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl

- 5 moiety, wherein the carbon atoms to which R₇ and R₈ are attached may be connected by a single, double or triple bond, as valency permits;

R_{9a} and R_{9b} are independently absent, hydrogen or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety;

- 10 R₁₀ is hydrogen or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety;

X₀ is CR^{X0a}R^{X0b}, O or NR^{X0a}; wherein R^{X0a} and R^{X0b} are independently hydrogen, a nitrogen protecting group, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety;

- 15 X₁ is O, S or NR^{X1}; wherein R^{X1} is hydrogen, a nitrogen protecting group, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety;

Z is O, NR^{Z1}, CR^{Z1}R^{Z2} or S, wherein R^{Z1} and R^{Z2} are independently hydrogen, halogen, a nitrogen protecting group, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety;

- 20 K, L and M are independently absent, CR^{P1}R^{P2}, CR^{P1} or C=O, wherein each occurrence of R^{P1} is independently hydrogen, halogen, an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or is WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each occurrence of R^{W1} and R^{W2} is

- 25 independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety; or a substituent present on K, when present, and taken together with R₆, forms an alicyclic, heterocyclic, aromatic or heteroaromatic moiety; and

A, B, D, E, G and J are independently connected by either a single or double bond, as valency permits, or A-B-D-E-G-J together represents an aryl or heteroaryl

- moiety; wherein B and J are independently N or CR^{Q1}; and A, D, E and G are independently C=O, CR^{Q1}R^{Q2}, NR^{Q1}, O, N or S; wherein each occurrence of R^{Q1} and R^{Q2} is independently absent, hydrogen, halogen, an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or is WR^{W1}
- 5 wherein W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety; or any two adjacent substituents on A, B, D, E, G and J, taken together, may represent an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety.
- 10 which they are attached, form a heterocyclic or heteroaryl moiety; or any two adjacent substituents on A, B, D, E, G and J, taken together, may represent an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety.
- 15 4. The compound of claim 1, wherein K and R₆, taken together, form a tetrahydrofuryl ring and the compound has the structure:
-
- wherein R₁ and R₂ are independently hydrogen, halogen, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety;
- 20 R₃ and R₄ are independently hydrogen or OR^{3a}, wherein at least one of R₃ and R₄ is -OR^{3a} or -NR^{3a}R^{3b}, or R₃ and R₄ taken together with the carbon to which they are attached form a -C(=O)- or =NR^{3c} moiety; wherein R^{3a} and R^{3b}, for each occurrence, is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety; and R^{3c} is an alkyl, cycloalkyl, heteroalkyl, heterocyclic,

aryl or heteroaryl moiety, or OR^{3d}; wherein R^{3d} is hydrogen or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety;

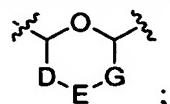
- R₅ is hydrogen, halogen, -CN, an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or is WR^{W1} wherein W is O, S,
 5 NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); or
 R₅ and R₆, taken together, form a cycloalkyl or heterocyclic moiety; wherein the
 carbon atoms to which R₅ and R₆ are attached may be connected by a single or
 double bond, as valency permits; and wherein each occurrence of R^{W1} and R^{W2} is
 independently hydrogen, a protecting group, a prodrug moiety or an alkyl,
 10 cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl
 moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to
 which they are attached, form a heterocyclic or heteroaryl moiety; or R₆, taken
 together with a substituent present on K, forms an alicyclic, heterocyclic, aryl or
 heteroaryl moiety;
- 15 R₇ and R₈ are independently absent, hydrogen, halogen or an alkyl,
 cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl
 moiety, wherein the carbon atoms to which R₇ and R₈ are attached may be connected
 by a single, double or triple bond, as valency permits;
- R_{9a} and R_{9b} are independently absent, hydrogen or an alkyl, cycloalkyl,
 20 heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety;
 R₁₀ is hydrogen or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl,
 heteroaryl, arylalkyl or heteroarylalkyl moiety;
 X₀ is CR^{X0a}R^{X0b}, O or NR^{X0a}; wherein R^{X0a} and R^{X0b} are independently
 25 hydrogen, a nitrogen protecting group, or an alkyl, cycloalkyl, heteroalkyl,
 heterocyclic, aryl or heteroaryl moiety;
 X₁ is O, S or NR^{X1}; wherein R^{X1} is hydrogen, a nitrogen protecting group, or
 an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or
 heteroarylalkyl moiety;
 Z is O, NR^{Z1}, CR^{Z1}R^{Z2} or S, wherein R^{Z1} and R^{Z2} are independently
 30 hydrogen, halogen, a nitrogen protecting group, or an alkyl, cycloalkyl, heteroalkyl,
 heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety;

K, L and M are independently absent, CR^{P1}R^{P2}, CR^{P1} or C=O, wherein each occurrence of R^{P1} is independently hydrogen, halogen, an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or is WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety; or a substituent present on K, when present, and taken together with R₆, forms an alicyclic, heterocyclic, aromatic or heteroaromatic moiety;

A, B, D, E, G and J are independently connected by either a single or double bond, as valency permits, or A-B-D-E-G-J together represents an aryl or heteroaryl moiety; wherein B and J are independently N or CR^{Q1}; and A, D, E and G are independently C=O, CR^{Q1}R^{Q2}, NR^{Q1}, O, N or S; wherein each occurrence of R^{Q1} and R^{Q2} is independently absent, hydrogen, halogen, an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or is WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety; or any two adjacent substituents on A, B, D, E, G and J, taken together, may represent an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl, heteroaryl, arylalkyl or heteroarylalkyl moiety; and

q and t are independently 0-2; wherein the sum q+t is 1-3.

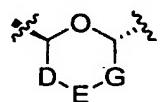
5. The compound of claim 1 or 3, wherein -(A)_q-B-D-E-(G)_t-J- together
30 represent a heterocyclic moiety having the structure:



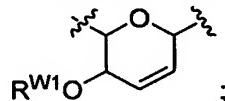
- wherein at least one of D and E, and E and G are connected by a double bond; and D, E and G are independently C=O, CR^{Q1}R^{Q2}, NR^{Q1}, N, O or S; wherein each occurrence of R^{Q1} and R^{Q2} is independently absent, hydrogen, halogen, an alkyl, cycloalkyl, heteroalkyl, heterocyclyl, aryl or heteroaryl moiety, or is WR^{W1} wherein
- 5 W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclyl, aryl or heteroaryl moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl
- 10 moiety; or any two adjacent substituents on D, E and G, taken together, may represent a cycloalkyl, heterocyclic, aryl or heteroaryl moiety.

6. The compound of claim 5, wherein the heterocyclic moiety has the following stereochemistry:

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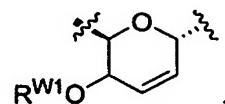


7. The compound of claim 1 or 3, wherein -(A)_q-B-D-E-(G)_r-J- together represent a heterocyclic moiety having the structure:

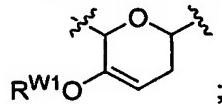


- 20 wherein R^{W1} is hydrogen, a protecting group, a prodrug moiety, -C(=O)R^{y3}, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety; wherein R^{y3} is hydrogen, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety.

- 25 8. The compound of claim 7, wherein the heterocyclic moiety has the following stereochemistry:

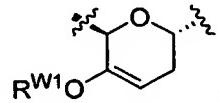


9. The compound of claim 1 or 3, wherein $-(A)_q-B-D-E-(G)_t-J-$ together represent a heterocyclic moiety having the structure:

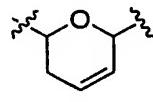


5 wherein R^{W1} is hydrogen, a protecting group, a prodrug moiety, -C(=O)R^{y3}, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety; wherein R^{y3} is hydrogen, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety.

10. The compound of claim 9, wherein the heterocyclic moiety has the following stereochemistry:

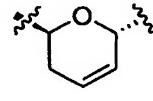


11. The compound of claim 1 or 3, wherein $-(A)_q-B-D-E-(G)_t-J-$ together represent a heterocyclic moiety having the structure:



15

12. The compound of claim 11, wherein the heterocyclic moiety has the following stereochemistry:



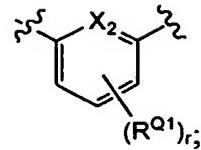
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13. The compound of any one of claims 5-10 wherein R^{W1} is hydrogen, an oxygen protecting group or lower alkyl.

14. The compound of claim 13 wherein R^{W1} is methyl.

25

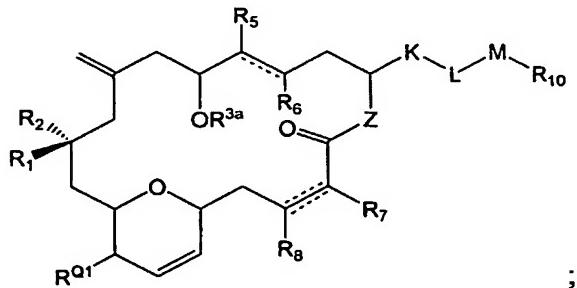
15. The compound of claim 1 or 3, wherein $-(A)_q-B-D-E-(G)_t-J-$ together represent a heterocyclic moiety having the structure:



wherein X_2 is CH or N; r is an integer from 0 to 3; and each occurrence of R^{Q1} is independently hydrogen, halogen, an alkyl, cycloalkyl, heteroalkyl, heterocyclyl, aryl or heteroaryl moiety, or is WR^{W1} wherein W is O, S, NR^{W2} , - $C(=O)$, - $S(=O)$, - SO_2 , - $C(=O)O-$, - $OC(=O)$, - $C(=O)NR^{W2}$, - $NR^{W2}C(=O)$; wherein 5 each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclyl, aryl or heteroaryl moiety, or, when W is NR^{W2} , R^{W1} and R^{W2} , taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety.

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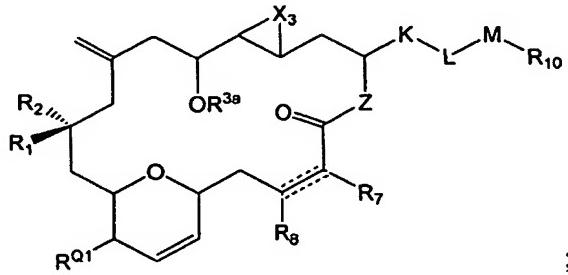
16. The compound of claim 1 wherein X_1 is O; one of R_3 and R_4 is OR^{3a} , the other is hydrogen; R_{9a} and R_{9b} are each hydrogen; and the compound has the structure:



15 wherein R_1 , R_2 , R_5 , R_6 , R_7 , R_8 , R_{10} , Z, K, L and M are as defined in claim 1; R^{Q1} is hydrogen, halogen, an alkyl, cycloalkyl, heteroalkyl, heterocyclyl, aryl or heteroaryl moiety, or is WR^{W1} wherein W is O, S, NR^{W2} , - $C(=O)$, - $S(=O)$, - SO_2 , - $C(=O)O-$, - $OC(=O)$, - $C(=O)NR^{W2}$, - $NR^{W2}C(=O)$; wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an 20 alkyl, cycloalkyl, heteroalkyl, heterocyclyl, aryl or heteroaryl moiety, or, when W is NR^{W2} , R^{W1} and R^{W2} , taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety; and R^{3a} is hydrogen, an oxygen protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety.

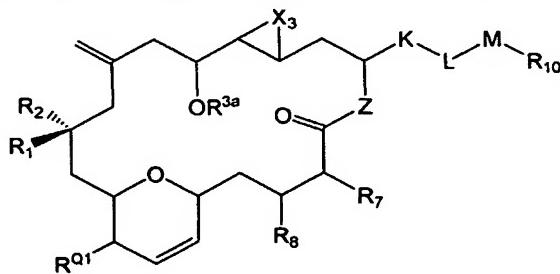
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17. The compound of claim 16 wherein R₅ and R₆ and the carbon atoms to which they are attached form a 3-membered cyclic moiety; and the compound has the structure:

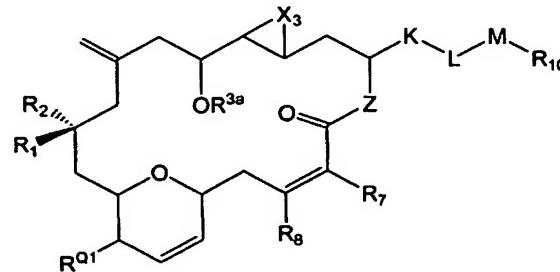


5 wherein X₃ is CR^{X3a}R^{X3b}, O or NR^{X3a}; wherein R^{X3a} and R^{X3b} are independently hydrogen, a nitrogen protecting group, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety.

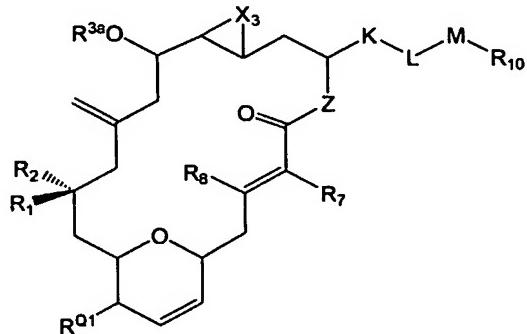
18. The compound of claim 17 wherein the carbon atoms to which R₇ and R₈ are attached are connected with a single bond; and the compound has the structure:



19. The compound of claim 17 wherein the carbon atoms to which R₇ and R₈ are attached are connected with a *cis*-double bond; and the compound has the structure:

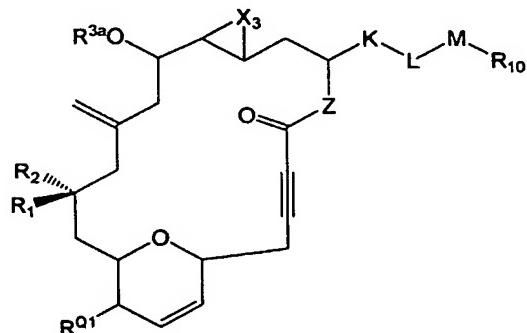


20. The compound of claim 17 wherein the carbon atoms to which R₇ and R₈ are attached are connected with a *trans*-double bond; and the compound has the structure:



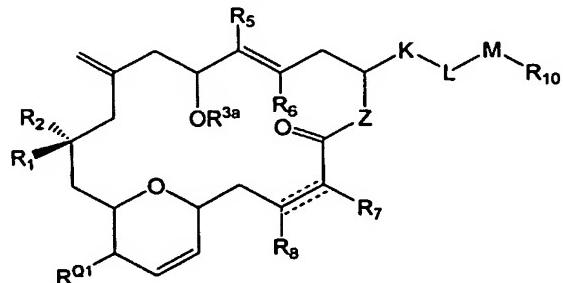
5

21. The compound of claim 17 wherein R₇ and R₈ are absent; the carbon atoms to which R₇ and R₈ are attached are connected with a triple bond; and the compound has the structure:

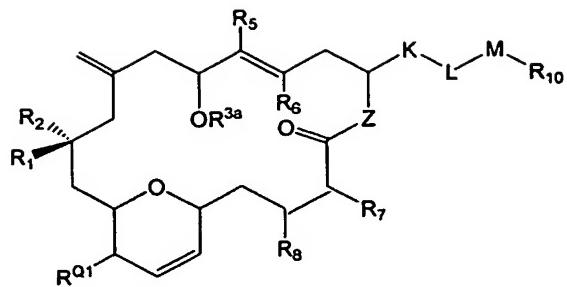


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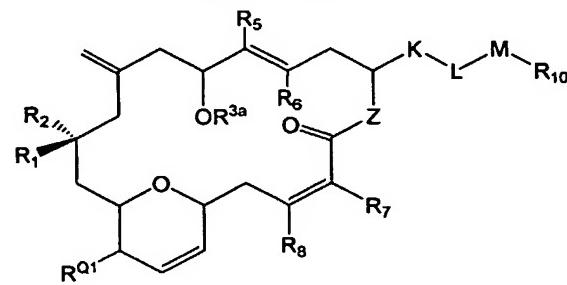
22. The compound of claim 16 wherein the carbon atoms to which R₅ and R₆ are attached are connected with a double bond; and the compound has the structure:



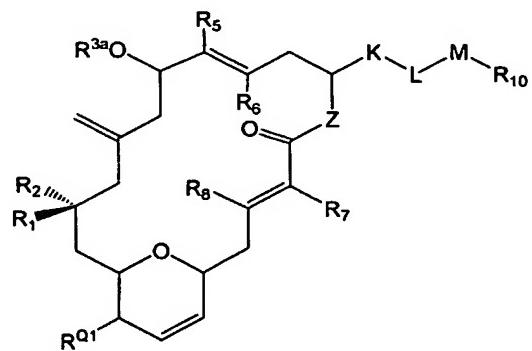
15 23. The compound of claim 22 wherein the carbon atoms to which R₇ and R₈ are attached are connected with a single bond; and the compound has the structure:



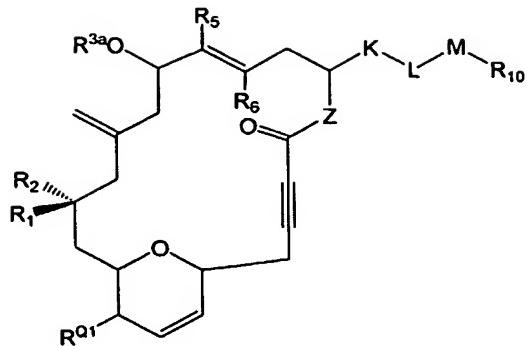
24. The compound of claim 22 wherein the carbon atoms to which R₇ and R₈ are attached are connected with a *cis*-double bond; and the compound has the structure:



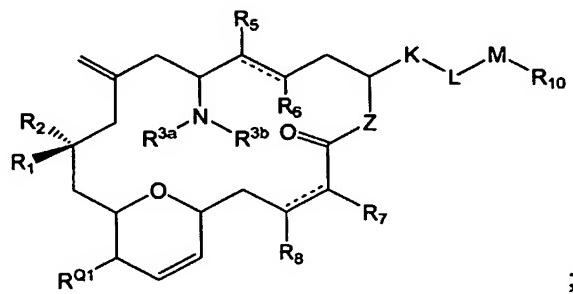
25. The compound of claim 22 wherein the carbon atoms to which R₇ and R₈ are attached are connected with a *trans*-double bond; and the compound has the structure:



26. The compound of claim 22 wherein R₇ and R₈ are absent; the carbon atoms to which R₇ and R₈ are attached are connected with a triple bond; and the compound has the structure:

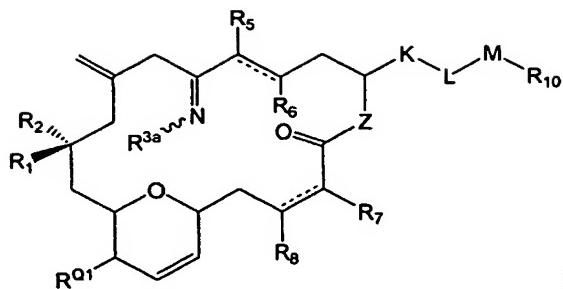


27. The compound of claim 1 wherein X_1 is O; one of R_3 and R_4 is $=NR^{3a}R^{3b}$, the other is hydrogen; R_{9a} and R_{9b} are each hydrogen; and the compound has the
5 structure:



wherein R_1 , R_2 , R_5 , R_6 , R_7 , R_8 , R_{10} , Z , K , L and M are as defined in claim 1;
10 R^{Q1} is hydrogen, halogen, an alkyl, cycloalkyl, heteroalkyl, heterocyclyl, aryl or
heteroaryl moiety, or is WR^{W1} wherein W is O, S, NR^{W2} , $-C(=O)$, $-S(=O)$, $-SO_2$,
 $-C(=O)O-$, $-OC(=O)$, $-C(=O)NR^{W2}$, $-NR^{W2}C(=O)$; wherein each occurrence of R^{W1}
and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an
alkyl, cycloalkyl, heteroalkyl, heterocyclyl, aryl or heteroaryl moiety, or, when W is
 NR^{W2} , R^{W1} and R^{W2} , taken together with the nitrogen atom to which they are
15 attached, form a heterocyclic or heteroaryl moiety; and R^{3a} and R^{3b} are
independently hydrogen, a nitrogen protecting group, a prodrug moiety or an alkyl,
cycloalkyl, heteroalkyl, heterocyclic, acyl, aryl or heteroaryl moiety.

28. The compound of claim 1 wherein X_1 is O; one of R_3 and R_4 is $=NR^{3a}$, the
other is hydrogen; R_{9a} and R_{9b} are each hydrogen; and the compound has the
20 structure:



wherein R_1 , R_2 , R_5 , R_6 , R_7 , R_{10} , Z , K , L and M are as defined in claim 1;

R^{Q1} is hydrogen, halogen, an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or

heteroaryl moiety, or is WR^{W1} wherein W is O, S, NR^{W2} , $-C(=O)$, $-S(=O)$, $-SO_2$,

5 $-C(=O)O$, $-OC(=O)$, $-C(=O)NR^{W2}$, $-NR^{W2}C(=O)$; wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an

alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety, or, when W is

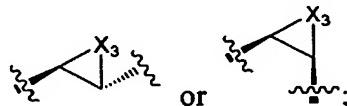
NR^{W2} , R^{W1} and R^{W2} , taken together with the nitrogen atom to which they are

attached, form a heterocyclic or heteroaryl moiety; and R^{3a} is hydrogen, a nitrogen

10 protecting group, a prodrug moiety, an alkyl, cycloalkyl, heteroalkyl, heterocyclic, acyl, aryl or heteroaryl moiety; or OR^{3b} wherein R^{3b} is hydrogen, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety.

29. The compound of claim 27 or 28, wherein R_5 and R_6 and the carbon atoms to

15 which they are attached form a 3-membered cyclic moiety having the structure:



wherein X_3 is $CR^{X3a}R^{X3b}$, O or NR^{X3a} ; wherein R^{X3a} and R^{X3b} are

independently hydrogen, a nitrogen protecting group, or an alkyl, cycloalkyl,

heteroalkyl, heterocyclic, acyl, aryl or heteroaryl moiety.

20

30. The compound of claim 29, wherein X_3 is CH_2 or O.

31. The compound of claim 27 or 28, wherein the carbon atoms to which R_7 and

R_8 are attached are connected with a single bond, a *cis*-double bond a *trans*-double

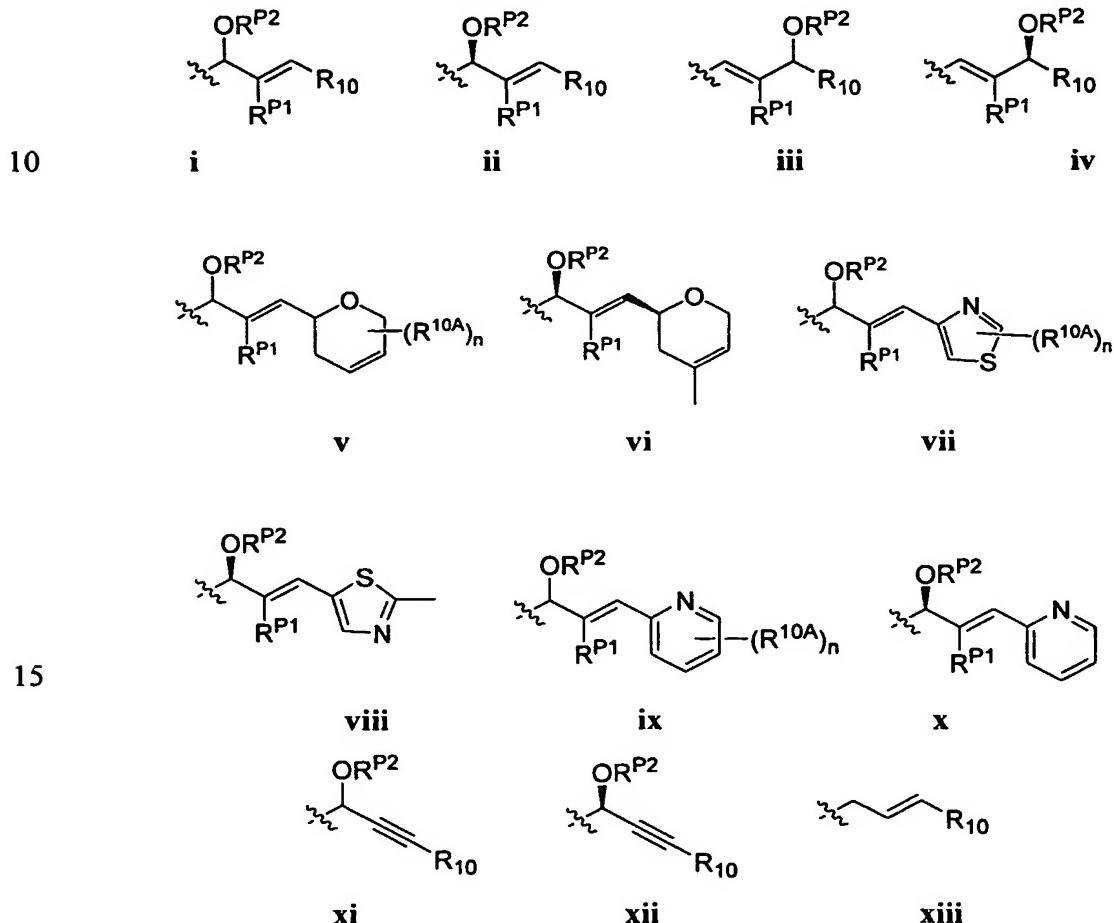
25 bond a triple bond.

32. The compound of any one of claims 1-4 and 16-28, wherein R₁ and R₂ are independently hydrogen or lower alkyl.
33. The compound of any one of claims 1-4 and 16-28, wherein R₁ and R₂ are each hydrogen.
- 5
34. The compound of any one of claims 1-4 and 16-28, wherein R₁ and R₂ are each methyl.
- 10 35. The compound of any one of claims 16-26, wherein R^{3a} is hydrogen, an oxygen protection group or a prodrug moiety.
36. The compound of any one of claims 16-26, wherein R^{3a} is hydrogen or Ac.
- 15 37. The compound of any one of claims 1-4 and 16-28, wherein Z is O, NH or NR^{Z1}, wherein R^{Z1} is a nitrogen protecting group, alkyl, aryl or heteroaryl.
38. The compound of any one of claims 1-4 and 16-28, wherein Z is O.
- 20 39. The compound of any one of claims 1-4, 16-20, 22-25 and 27-28, wherein R₇ and R₈ are independently hydrogen, halogen or lower alkyl.
40. The compound of any one of claims 1-4, 16-20, 22-25 and 27-28, wherein R₇ and R₈ are each hydrogen.
- 25
41. The compound of any one of claims 16-28, wherein R^{Q1} is hydrogen or OR^{W1}; wherein R^{W1} is hydrogen, a protecting group, a prodrug moiety, -C(=O)R^{y3}, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety; wherein R^{y3} is hydrogen, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety.
- 30

42. The compound of any one of claims 16-28, wherein R^{Q1} is hydrogen or OR^{W1} ; wherein R^{W1} is hydrogen or lower alkyl.

43. The compound of any one of claims 16-28, wherein R^{Q1} is hydrogen or
5 OMe .

44. The compound of any one of claims 1-4 and 16-28, wherein $-K-L-M-R_{10}$ is a moiety having one of the following structures:



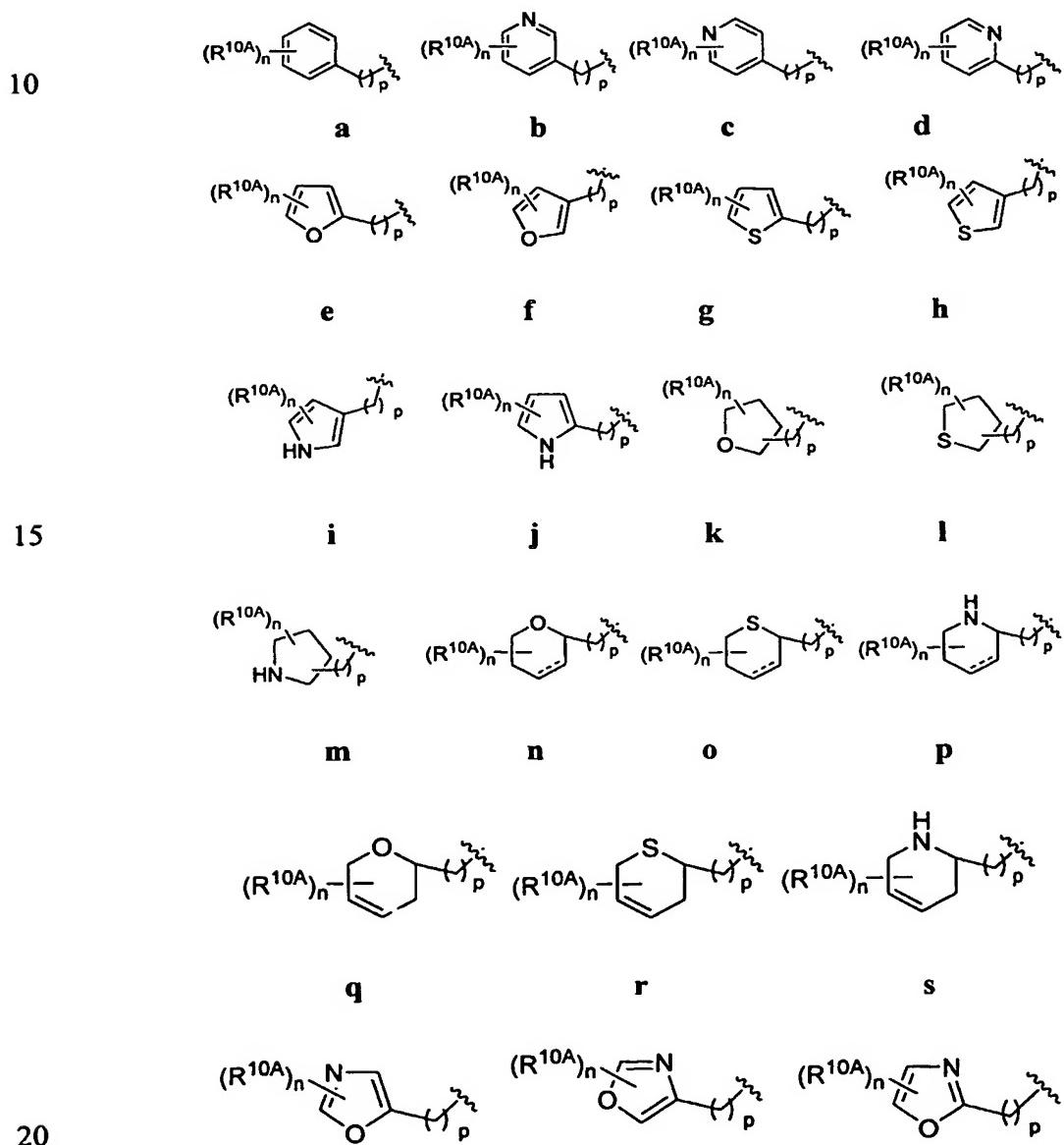
wherein n is an integer from 0 to 3; each occurrence of R^{10A} is independently
20 hydrogen, halogen, -CN, or WR^{W1} wherein W is O, S, NR^{W2} , -C(=O), -S(=O), -SO₂,
-C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each occurrence of R^{W1}
and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an
alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety, or, when W is
 NR^{W2} , R^{W1} and R^{W2} , taken together with the nitrogen atom to which they are

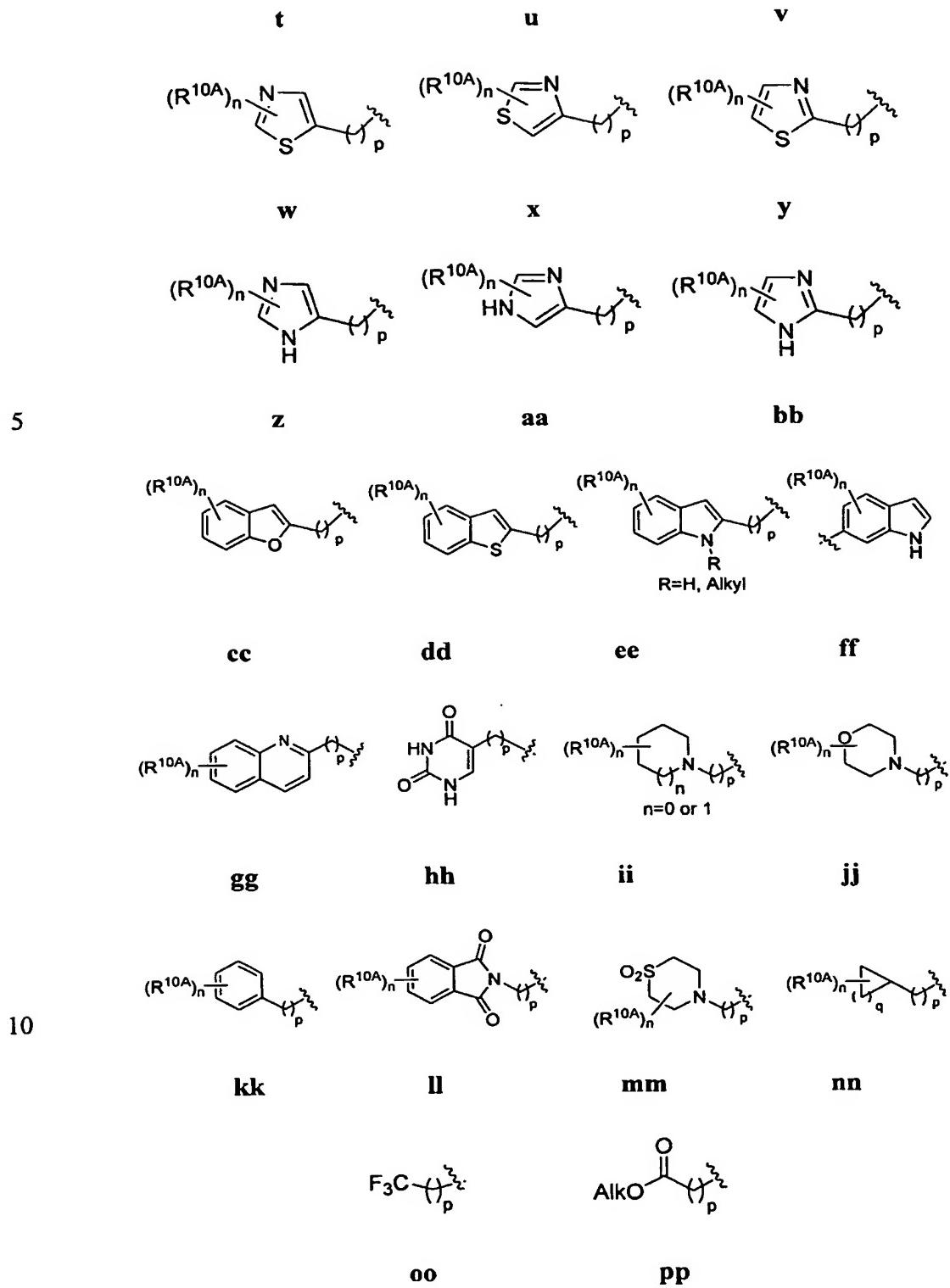
attached, form a heterocyclic or heteroaryl moiety; R^{P1} is hydrogen or lower alkyl; and each occurrence of R^{P2} is independently hydrogen, a protecting group, a prodrug moiety, $-C(=O)R^Y$, or an alkyl, cycloalkyl, heteroalkyl, heterocyclyl, aryl or heteroaryl moiety; wherein R^Y is hydrogen, or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety.

5

45. The compound of claim 44, wherein R^{P1} is hydrogen or methyl.

46. The compound of claim 44, wherein R_{10} is one of:



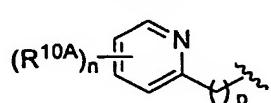


wherein n and p are each independently integers from 0 to 3; q is an integer
 15 from 1 to 6; and each occurrence of R^{10A} is independently hydrogen, halogen, -CN,

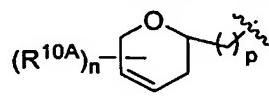
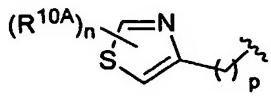
or WR^{W1} wherein W is O, S, NR^{W2} , $-C(=O)$, $-S(=O)$, $-SO_2$, $-C(=O)O-$, $-OC(=O)$, $-C(=O)NR^{W2}$, $-NR^{W2}C(=O)$; wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety, or, when W is NR^{W2} ,

5 R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety.

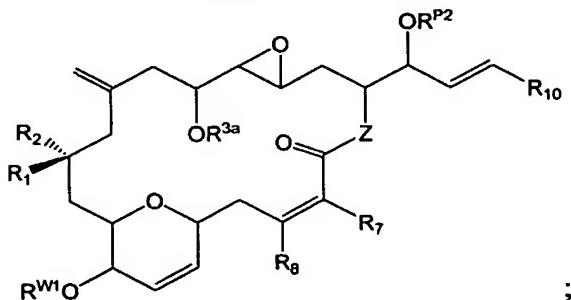
47. The compound of claim 46, wherein R₁₀ is one of:



10

d**q-(i)****x**

48. The compound of claim 1 having the structure:



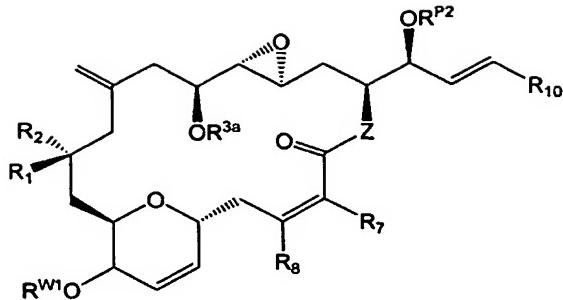
;

wherein Z is O, NH or NR^{Z1} , wherein R^{Z1} is a nitrogen protecting group,

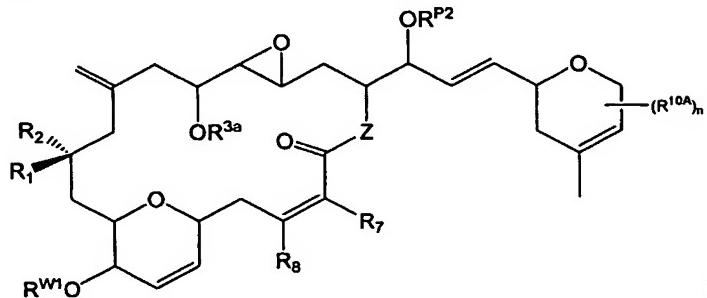
15 alkyl, aryl or heteroaryl; R₁ and R₂ are independently hydrogen or lower alkyl; R^{3a}, R^{W1} and R^{P2} are independently hydrogen, an oxygen protecting group, a prodrug moiety, lower alkyl, aryl or heteroaryl; R₇ and R₈ are independently hydrogen, halogen, lower alkyl, aryl, heteroaryl, or, R₇ and R₈, taken together, form a cycloalkyl, heterocyclyl, aryl or heteroaryl moiety.

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49. The compound of claim 48 having the following stereochemistry:

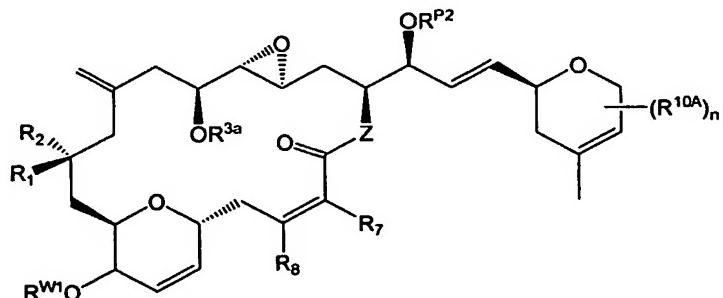


50. The compound of claim 48 having the structure:



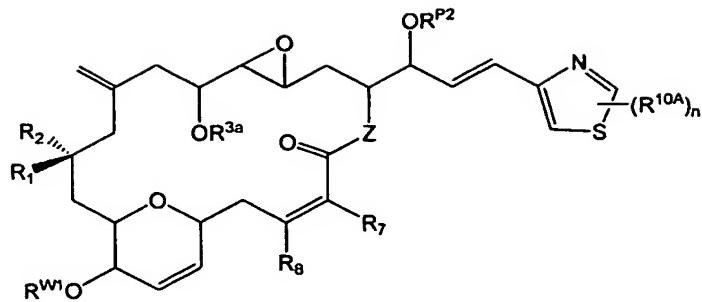
5 wherein n is an integer from 0 to 3; and each occurrence of R^{10A} is
independently hydrogen, halogen, -CN, or WR^{W1} wherein W is O, S, NR^{W2}, -C(=O),
-S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each
occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug
moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety,
10 or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which
they are attached, form a heterocyclic or heteroaryl moiety.

51. The compound of claim 50 having the following stereochemistry:



15

52. The compound of claim 48 having the structure:

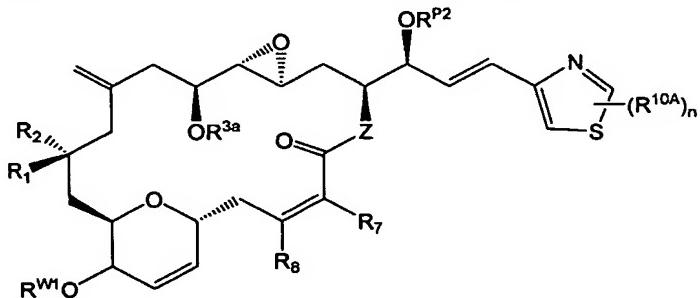


wherein n is an integer from 0 to 3; and each occurrence of R^{10A} is

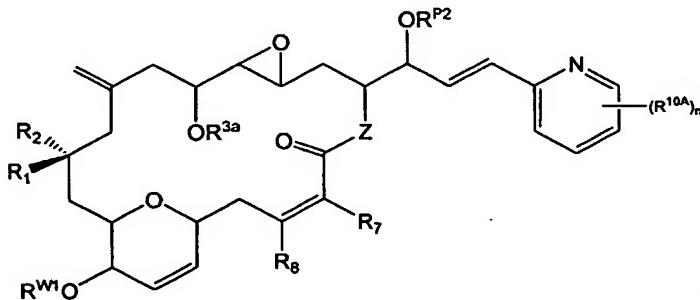
independently hydrogen, halogen, -CN, or WR^{W1} wherein W is O, S, NR^{W2} , -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each

5 occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety, or, when W is NR^{W2} , R^{W1} and R^{W2} , taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety.

10 53. The compound of claim 52 having the following stereochemistry:



54. The compound of claim 48 having the structure:



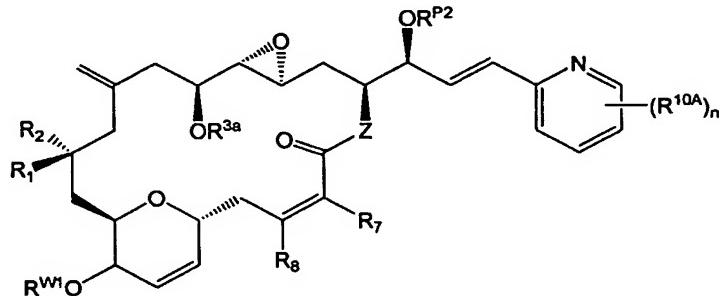
15 wherein n is an integer from 0 to 3; and each occurrence of R^{10A} is

independently hydrogen, halogen, -CN, or WR^{W1} wherein W is O, S, NR^{W2} , -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each

occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety, or, when W is NR^{W2} , R^{W1} and R^{W2} , taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety.

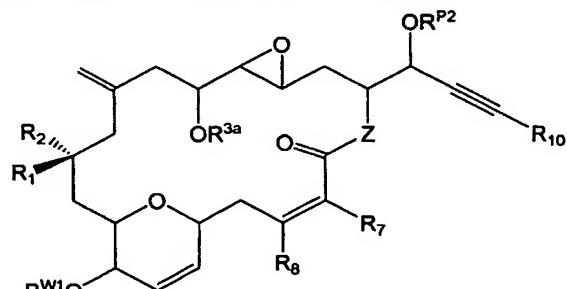
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55. The compound of claim 54 having the following stereochemistry:

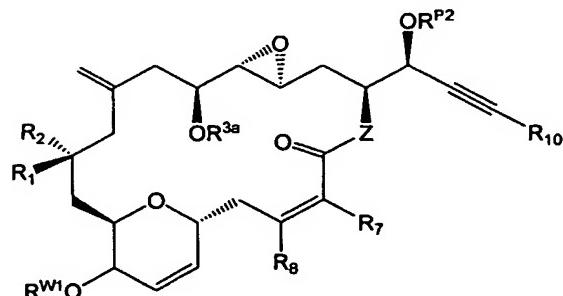


56. The compound of claim 48 having the structure:

10

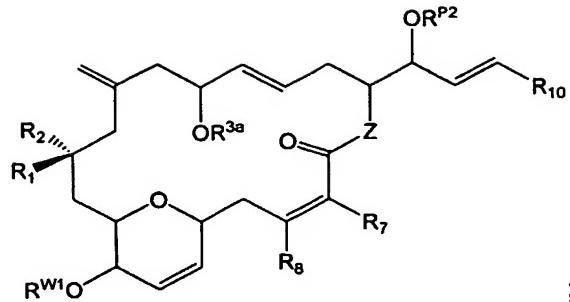


57. The compound of claim 56 having the following stereochemistry:



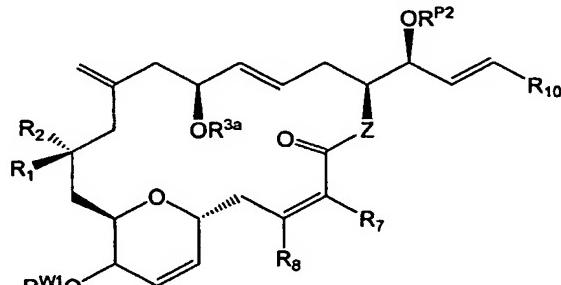
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58. The compound of claim 1 having the structure:

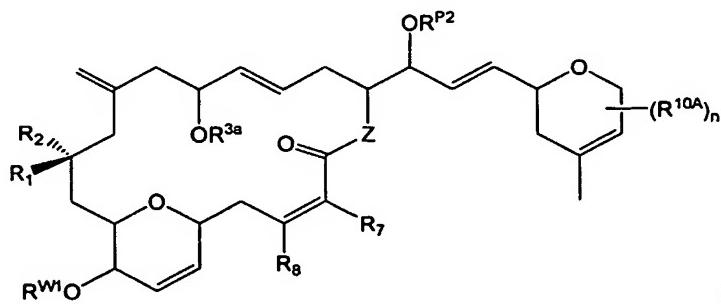


wherein Z is O, NH or NR^{Z1}, wherein R^{Z1} is a nitrogen protecting group, alkyl, aryl or heteroaryl; R₁ and R₂ are independently hydrogen or lower alkyl; R^{3a}, R^{W1} and R^{P2} are independently hydrogen, an oxygen protecting group, a prodrug moiety, lower alkyl, aryl or heteroaryl; R₇ and R₈ are independently hydrogen, halogen, lower alkyl, aryl, heteroaryl, or, R₇ and R₈, taken together, form a 5 cycloalkyl, heterocyclyl, aryl or heteroaryl moiety.

59. The compound of claim 58 having the following stereochemistry:



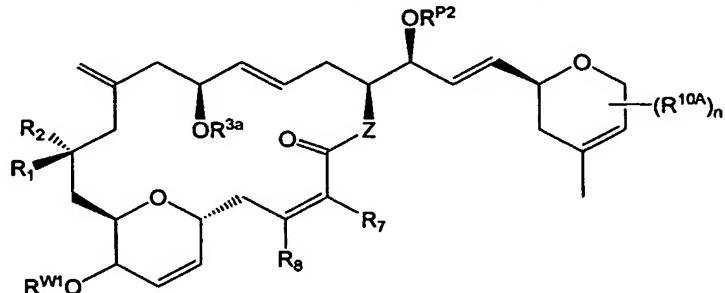
60. The compound of claim 58 having the structure:



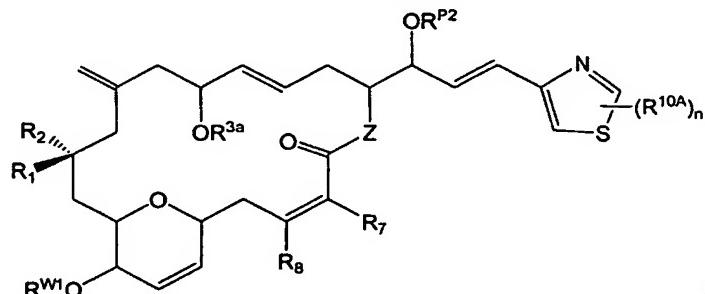
wherein n is an integer from 0 to 3; and each occurrence of R^{10A} is 15 independently hydrogen, halogen, -CN, or WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug

moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety.

- 5 61. The compound of claim 60 having the following stereochemistry:



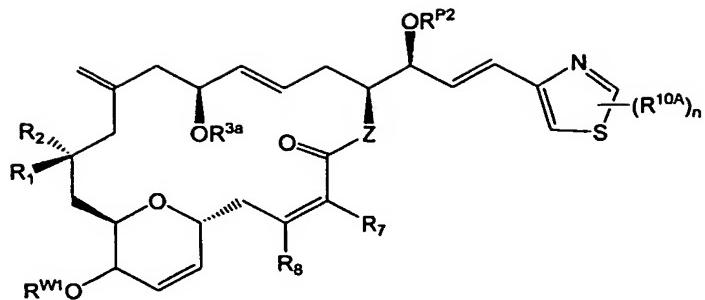
62. The compound of claim 58 having the structure:



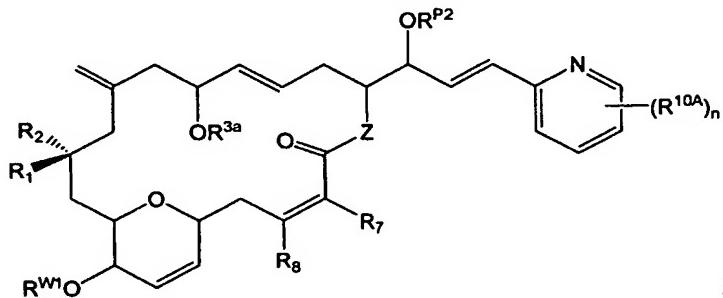
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- wherein n is an integer from 0 to 3; and each occurrence of R^{10A} is independently hydrogen, halogen, -CN, or WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety.

- 15 63. The compound of claim 62 having the following stereochemistry:

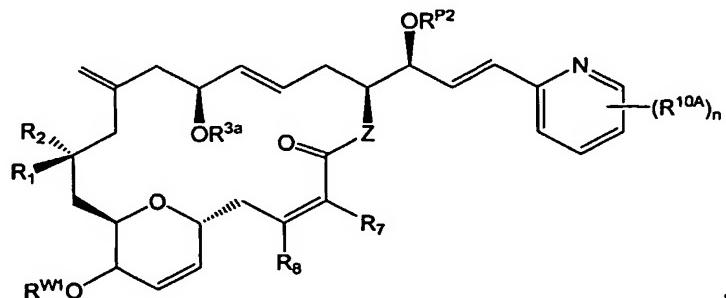


64. The compound of claim 58 having the structure:



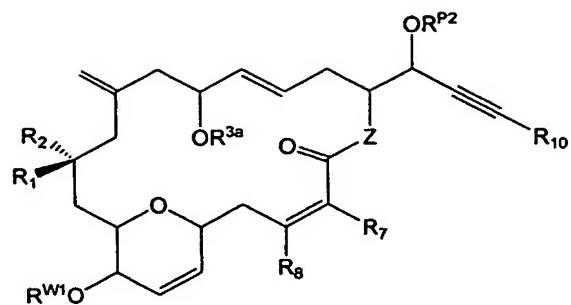
5 wherein n is an integer from 0 to 3; and each occurrence of R^{10A} is independently hydrogen, halogen, -CN, or WR^{W1} wherein W is O, S, NR^{W2} , -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety,
10 or, when W is NR^{W2} , R^{W1} and R^{W2} , taken together with the nitrogen atom to which they are attached, form a heterocyclic or heteroaryl moiety.

65. The compound of claim 64 having the following stereochemistry:

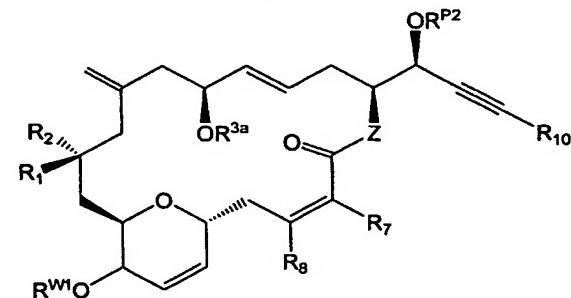


15

66. The compound of claim 58 having the structure:

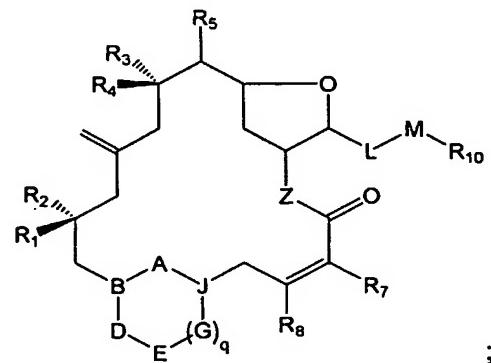


67. The compound of claim 66 having the following stereochemistry:



5

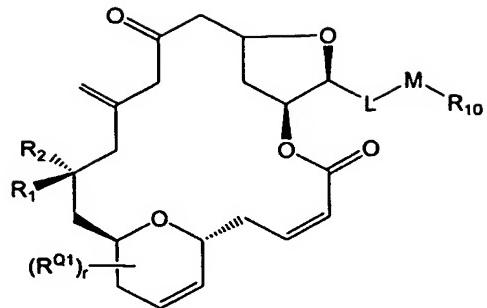
68. The compound of claim 1 having the structure:



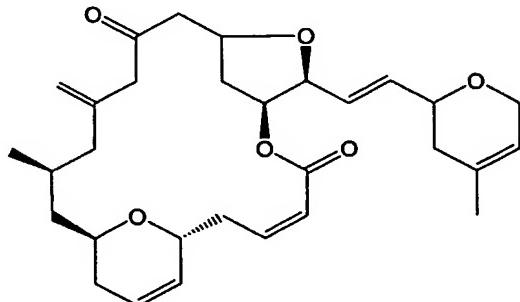
wherein q , R_1-R_5 , R_7-R_8 , R_{10} , A , B , D , E , G , J , L , M and Z are as defined in claim 1.

10

69. The compound of claim 68 having the following stereochemistry:

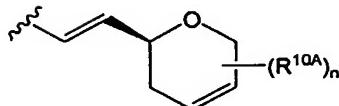


70. The compound of claim 68 having the structure:

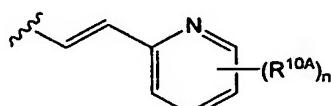


5

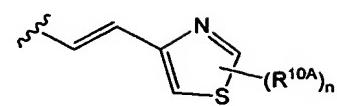
71. The compound of claim 68 or 69, wherein -L-M-R¹⁰ is one of:



xiv



xv



xvi

wherein n is an integer from 0 to 3; and each occurrence of R^{10A} is

10 independently hydrogen, halogen, -CN, or WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an alkyl, cycloalkyl, heteroalkyl, heterocyclic, aryl or heteroaryl moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which
15 they are attached, form a heterocyclic or heteroaryl moiety.

72. The compound of any one of claims 48-70, wherein R₁ is methyl and R₂ is hydrogen.

73. The compound of any one of claims 48-70, wherein R₁ and R₂ are each methyl.

74. The compound of any one of claims 48-67, wherein R^{3a} is hydrogen, methyl
5 or acetyl.

75. The compound of any one of claims 48-67, wherein R^{P2} is hydrogen, methyl
or acetyl.

10 76. The compound of any one of claims 48-68, wherein R₇ and R₈ are each
hydrogen.

77. The compound of any one of claims 48-67, wherein R^{W1} is hydrogen or
methyl.

15 78. The compound of any one of claims 48-68, wherein Z is O or NR^{Z1} wherein
R^{Z1} is hydrogen, lower alkyl or aryl.

79. The compound of any one of claims 48-49, 56-59 and 66-69, wherein R₁₀ is
20 selected from the groups a through pp.

80. The compound of any one of claims 50-55 and 60-65, wherein n is 0.

81. The compound of any one of claims 50-55 and 60-65, wherein n is 1 and
25 R^{10A} is lower alkyl.

82. A pharmaceutical composition comprising:

a compound of any one of claims 1-81; and

a pharmaceutically acceptable carrier or diluent.

30 83. The pharmaceutical composition of claim 82 wherein the compound is
present in an amount effective to inhibit the growth of multidrug resistant cells.

84. The composition of claim 82, further comprising an additional cytotoxic agent.

5 85. The composition of claim 84, wherein the cytotoxic agent is an anticancer agent.

86. The composition of claim 85, wherein the anticancer agent is paclitaxel.

10 87. A method of inhibiting the growth of multidrug resistant cells in:

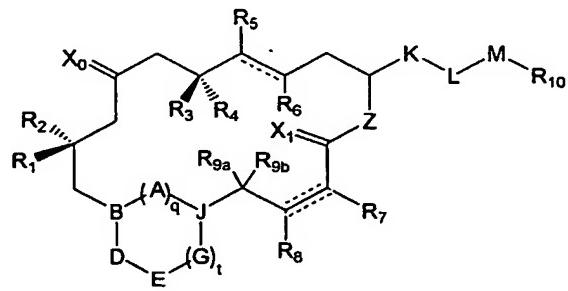
(a) a subject; or

(b) a biological sample;

which method comprises administering to said subject, or contacting said biological sample with:

a) a composition according to claim 82; or

b) a compound having the structure:



(I)

15 or pharmaceutically acceptable derivatives thereof;

wherein **R₁** and **R₂** are independently hydrogen, halogen, or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety;

20 **R₃** and **R₄** are independently hydrogen, -OR^{3a} or -NR^{3a}R^{3b}, wherein at least one of **R₃** and **R₄** is -OR^{3a} or -NR^{3a}R^{3b}, or **R₃** and **R₄** taken together with the carbon to which they are attached form a -C(=O)- or =NR^{3c} moiety; wherein R^{3a} and R^{3b}, for each occurrence, is independently hydrogen, a protecting group, a prodrug moiety or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety; and R^{3c} is an aliphatic, alicyclic, heteroaliphatic,

heteroalicyclic, aromatic or heteroaromatic moiety, or OR^{3d}; wherein R^{3d} is hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety;

- R₅ and R₆ are independently hydrogen, halogen, -CN, an aliphatic, alicyclic, 5 heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or is WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), - C(=O)NR^{W2}, -NR^{W2}C(=O); or R₅ and R₆, taken together, form an alicyclic or heteroalicyclic moiety; wherein the carbon atoms to which R₅ and R₆ are attached may be connected by a single or double bond, as valency permits; and wherein each 10 occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heteroalicyclic or heteroaryl moiety; or R₆, taken together with a substituent present on K, forms an alicyclic, 15 heterocyclic, aromatic or heteroaromatic moiety;

- R₇ and R₈ are independently absent, hydrogen, halogen, -CN, or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or R₇ and R₈, taken together, form an alicyclic, heteroalicyclic, aromatic or heteroaromatic moiety; wherein the carbon atoms to which R₇ and R₈ are attached may be 20 connected by a single, double or triple bond, as valency permits;

- R_{9a} and R_{9b} are independently absent, hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or one of R_{9a} and R_{9b}, taken together with X₁, forms an alicyclic, heteroalicyclic, aromatic or heteroaromatic moiety;

- 25 R₁₀ is hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety;

- X₁ is O, S or NR^{X1}, or X₁, taken together with one of R_{9a} and R_{9b}, forms an alicyclic, heteroalicyclic, aromatic or heteroaromatic moiety; wherein R^{X1} is hydrogen, a nitrogen protecting group, or an aliphatic, alicyclic, heteroaliphatic, 30 heteroalicyclic, aromatic or heteroaromatic moiety;

Z is O, NR^{Z1}, CR^{Z1}R^{Z2} or S, wherein R^{Z1} and R^{Z2} are independently hydrogen, halogen, a nitrogen protecting group, or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety;

K, L and M are independently absent, or a substituted or unsubstituted C₁-

- 5 α alkylidene or C₂₋₆alkenylidene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO₂, COCO, CONR^{P1}, OCONR^{P1}, NR^{P1}NR^{P2}, NR^{P1}NR^{P2}CO, NR^{P1}CO, NR^{P1}CO₂, NR^{P1}CONR^{P2}, SO, SO₂, NR^{P1}SO₂, SO₂NR^{P1}, NR^{P1}SO₂NR^{P2}, O, S, or NR^{P1}; wherein each occurrence of R^{P1} and R^{P2} is independently hydrogen, aliphatic, heteroaliphatic, aromatic, heteroaromatic or acyl, or a substituent present on K, when present, and taken together with R₆, forms an alicyclic, heterocyclic, aromatic or heteroaromatic moiety;
- 10

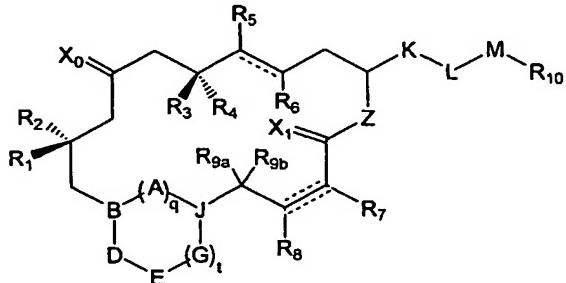
- A, B, D, E, G and J** are independently connected by either a single or double bond, as valency permits, or A-B-D-E-G-J together represents an aromatic or heteroaromatic moiety; wherein B and J are independently N or CR^{Q1}; and A, D, E and G are independently C=O, CR^{Q1}R^{Q2}, NR^{Q1}, O, N or S; wherein each occurrence of R^{Q1} and R^{Q2} is independently absent, hydrogen, halogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or is WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heteroalicyclic or heteroaryl moiety; or any two adjacent substituents on A, B, D, E, G and J, taken together, may represent an alicyclic, heteroalicyclic, aromatic or heteroaromatic moiety; and
- 15
- 20
- 25

q and **t** are independently 0-2; wherein the sum q+t is 1-3;

provided that the method excludes contacting a hyperproliferative mammalian cell having a multiple drug resistant phenotype with a laulimalide compound, as defined in U.S. Patent No. 6,414,015.

88. A method of treating or lessening the severity of a disease or condition associated with cell hyperproliferation in a subject, said method comprising a step of administering to said subject:

- a) a composition according to claim 82; or
- b) a compound having the structure:



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or pharmaceutically acceptable derivative thereof;

wherein **R₁** and **R₂** are independently hydrogen, halogen, or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety;

R₃ and **R₄** are independently hydrogen, -OR^{3a} or -NR^{3a}R^{3b}, wherein at least one of **R₃** and **R₄** is -OR^{3a} or -NR^{3a}R^{3b}, or **R₃** and **R₄** taken together with the carbon to which they are attached form a -C(=O)- or =NR^{3c} moiety; wherein R^{3a} and R^{3b}, for each occurrence, is independently hydrogen, a protecting group, a prodrug moiety or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety; and R^{3c} is an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or OR^{3d}; wherein R^{3d} is hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety;

R₅ and **R₆** are independently hydrogen, halogen, -CN, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or is WR^{W1} wherein W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); or **R₅** and **R₆**, taken together, form an alicyclic or heteroalicyclic moiety; wherein the carbon atoms to which **R₅** and **R₆** are attached may be connected by a single or double bond, as valency permits; and wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or

heteroaromatic moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heteroalicyclic or heteroaryl moiety; or R₆, taken together with a substituent present on K, forms an alicyclic, heterocyclic, aromatic or heteroaromatic moiety;

5 R₇ and R₈ are independently absent, hydrogen, halogen, -CN, or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or R₇ and R₈, taken together, form an alicyclic, heteroalicyclic, aromatic or heteroaromatic moiety; wherein the carbon atoms to which R₇ and R₈ are attached may be connected by a single, double or triple bond, as valency permits;

10 R_{9a} and R_{9b} are independently absent, hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or one of R_{9a} and R_{9b}, taken together with X₁, forms an alicyclic, heteroalicyclic, aromatic or heteroaromatic moiety;

15 R₁₀ is hydrogen or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety;

 X₁ is O, S or NR^{X1}, or X₁, taken together with one of R_{9a} and R_{9b}, forms an alicyclic, heteroalicyclic, aromatic or heteroaromatic moiety; wherein R^{X1} is hydrogen, a nitrogen protecting group, or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety;

20 Z is O, NR^{Z1}, CR^{Z1}R^{Z2} or S, wherein R^{Z1} and R^{Z2} are independently hydrogen, halogen, a nitrogen protecting group, or an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety;

 K, L and M are independently absent, or a substituted or unsubstituted C₁-alkylidene or C₂-alkenylidene chain wherein up to two non-adjacent methylene units are independently optionally replaced by CO, CO₂, COCO, CONR^{P1}, OCONR^{P1}, NR^{P1}NR^{P2}, NR^{P1}NR^{P2}CO, NR^{P1}CO, NR^{P1}CO₂, NR^{P1}CONR^{P2}, SO, SO₂, NR^{P1}SO₂, SO₂NR^{P1}, NR^{P1}SO₂NR^{P2}, O, S, or NR^{P1}; wherein each occurrence of R^{P1} and R^{P2} is independently hydrogen, aliphatic, heteroaliphatic, aromatic, heteroaromatic or acyl, or a substituent present on K, when present, and taken together with R₆, forms an alicyclic, heterocyclic, aromatic or heteroaromatic moiety;

A, B, D, E, G and J are independently connected by either a single or double bond, as valency permits, or A-B-D-E-G-J together represents an aromatic or heteroaromatic moiety; wherein B and J are independently N or CR^{Q1}; and A, D, E and G are independently C=O, CR^{Q1}R^{Q2}, NR^{Q1}, O, N or S; wherein each occurrence of R^{Q1} and R^{Q2} is independently absent, hydrogen, halogen, an aliphatic, alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or is WR^{W1} 5 wherein W is O, S, NR^{W2}, -C(=O), -S(=O), -SO₂, -C(=O)O-, -OC(=O), -C(=O)NR^{W2}, -NR^{W2}C(=O); wherein each occurrence of R^{W1} and R^{W2} is independently hydrogen, a protecting group, a prodrug moiety or an aliphatic, 10 alicyclic, heteroaliphatic, heteroalicyclic, aromatic or heteroaromatic moiety, or, when W is NR^{W2}, R^{W1} and R^{W2}, taken together with the nitrogen atom to which they are attached, form a heteroalicyclic or heteroaryl moiety; or any two adjacent substituents on A, B, D, E, G and J, taken together, may represent an alicyclic, heteroalicyclic, aromatic or heteroaromatic moiety; and
q and t are independently 0-2; wherein the sum q+t is 1-3.

89. The method of claim 88, comprising a further step of administering to said patient an additional therapeutic agent selected from a chemotherapeutic or anti-proliferative agent, an anti-inflammatory agent, or an agent for treating psoriasis and/or dermatitis, wherein:

said additional therapeutic agent is appropriate for the disease being treated;
and

said additional therapeutic agent is administered together with said composition as a single dosage form or separately from said composition as part of a multiple dosage form.

15 88. The method of claim 89, wherein the chemotherapeutic agent is paclitaxel.